

LISTING OF THE CLAIMS

A complete listing of the claims is provided below. This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A variable capacity modular combined refrigerating installation, which consists of multiple refrigerating modular units, each modular unit comprising one or more refrigerating cycles which includes a refrigerating medium and refrigerating compressor set ~~[[1]]~~, an evaporator ~~[[4]]~~ and a condenser, comprising: (10), ~~wherein:~~

~~[[A]] a flow control valve [[of]] for the refrigerating medium [[is]] mounted at one of the refrigerating medium inlet/outlet ports of the evaporator ~~[[4]]~~, and a flow control valve of cooling the refrigerating medium is mounted at least one of the inlet/outlet ports of the condenser; and (10), at least;~~

~~The refrigerating compressor set (1) includes a frequency conversion motor ~~[[1A]]~~ and a compressor with magnetic suspension bearings ~~[[1B]]~~ disposed as part of the refrigerating compressor set.~~

2. (Currently Amended) A modular combined refrigerating installation according to claim 1, ~~[[wherein]] further comprising at least one of:~~

~~[[A]] a suction pressure sensor ~~[[26]]~~ is]] mounted at the suction port ~~[[17]]~~ of the compressor set to transfer ~~[[the]]~~ pressure information for controlling the working capacity of the compressor set ~~[[1]]~~; ~~[[and/or]] and~~~~

~~a discharge pressure sensor ~~[[27]]~~ is]] mounted at the outlet port of the compressor to transfer ~~[[the]]~~ pressure information for controlling the opening ratio of said flow control valve ~~[[11]]~~ of cooling medium.~~

3. (Currently Amended) A modular combined refrigerating installation according to claim 1 ~~[[or 2, wherein]]~~ , further comprising:

~~It comprises a refrigerating water~~ a temperature sensor ~~[[(19)]]~~ to collect and transfer ~~[[the]]~~ parameters of the refrigerating water temperature of the installation for controlling the opening ratio of said flow control valve ~~[[(6)]]~~ of refrigerating medium.

4. (Currently Amended) A modular combined refrigerating installation according to claim 1 ~~or 2, wherein~~ , further comprising:

~~It comprises~~ a sensor ~~[[(20)]]~~ for pressure difference between supply and return at the installation side and a sensor ~~[[(21)]]~~ for pressure difference between supply and return at the load side in the refrigerating medium system, to collect and transfer ~~[[the]]~~ parameters of the pressure difference between supply and return for calculating and controlling ~~[[the]]~~ a working frequency of the delivery pump.

5. (Currently Amended) A modular combined refrigerating installation according to claim 1, further comprising ~~or 2, wherein~~:

~~It comprises~~ a sensor ~~[[(22)]]~~ for pressure difference between supply and return at the installation side in the cooling medium system to calculate and control ~~[[the]]~~ a working frequency of the delivery pump.

6. (Currently Amended) A modular combined refrigerating installation according to claim 1, further comprising ~~or 2, wherein~~:

~~[[A]]~~ a magnetic bearing sensor ~~[[(28)]]~~ is mounted at each magnetic bearing of the compressor ~~[[(1B)]]~~.

7. (Currently Amended) A modular combined refrigerating installation according to claim 1 [[or 2]], wherein[: Said]] said evaporator [[(4)]] is a plate heat exchanger of full liquid evaporation type, which [[is composed of]] has an inner core [[(41)]] and an outer shell [[(42)]], said core [[(41)]] is formed by welding a certain number of metal plate of certain geometric shape according to a [[certain]] predetermined rule; said outer shell [[(42)]] is a barrel shaped container with a circle or square section; and in said evaporator [[(4)]], there are two or more kinds of medium flowing channels which are isolated from each other.

8. (Currently Amended) A modular combined refrigerating installation according to claim 7, wherein[: Each]] each modular unit is provided with an economizer [[(14)]], and the liquid cryogen from said condenser [[(10)]] is divided into two parts, one part after being throttled super cools the other part, while said one part absorbs heat and evaporates itself.

9. (Currently Amended) A modular combined refrigerating installation according to claim 8, wherein[: A]] a liquid level control throttling expansion device [[(8)]] is mounted between said condenser [[(10)]] and the plate heat exchanger of full liquid evaporation type [[(4)].

10. (Currently Amended) A modular combined refrigerating installation according to claim 9, wherein[: A]] a gas-liquid separator [[(2)]] is mounted between the suction port of the compressor [[(17)]] and the plate heat exchanger of full liquid evaporation type [[(4)].

11. (Currently Amended) A modular combined refrigerating installation according to claim 1 [[or 2]], wherein[: The]] the general circuit of the modular refrigerating installation

is controlled by a master controller [(25)], and the circuit of each modular unit is controlled by a microprocessor controller [(18)].

12. (New) A modular combined refrigerating installation according to claim 2, wherein the general circuit of the modular refrigerating installation is controlled by a master controller, and the circuit of each modular unit is controlled by a microprocessor controller.

13. (New) A modular combined refrigerating installation according to claim 2, further comprising:

a temperature sensor to collect and transfer parameters of the refrigerating water temperature of the installation for controlling the opening ratio of said flow control valve of refrigerating medium.

14. (New) A modular combined refrigerating installation according to claim 2, further comprising:

a sensor for pressure difference between supply and return at the installation side and a sensor for pressure difference between supply and return at the load side in the refrigerating medium system, to collect and transfer parameters of the pressure difference between supply and return for calculating and controlling a working frequency of the delivery pump.

15. (New) A modular combined refrigerating installation according to claim 2, further comprising:

a sensor for pressure difference between supply and return at the installation side in the cooling medium system to calculate and control a working frequency of the delivery pump.

16. (New) A modular combined refrigerating installation according to claim 2, further comprising:

a magnetic bearing sensor is mounted at each magnetic bearing of the compressor.

17. (New) A modular combined refrigerating installation according to claim 2, wherein said evaporator is a plate heat exchanger of full liquid evaporation type, which has an inner core and an outer shell, said core is formed by welding a certain number of metal plate of certain geometric shape according to a predetermined rule; said outer shell is a barrel shaped container with a circle or square section; and in said evaporator, there are two or more kinds of medium flowing channels which are isolated from each other.